



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,327	11/21/2003	Kenneth F. Fennewald	7377-000005/US	2615
28997	7590	09/30/2005	EXAMINER	
HARNESS, DICKEY, & PIERCE, P.L.C			FASTOVSKY, LEONID M	
7700 BONHOMME, STE 400			ART UNIT	
ST. LOUIS, MO 63105			PAPER NUMBER	
			3742	

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

e

<b>Office Action Summary</b>	<b>Application No.</b> 10/719,327	<b>Applicant(s)</b> FENNEWALD ET AL.	
	<b>Examiner</b> Leonid M. Fastovsky	<b>Art Unit</b> 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11, 13, 14 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 13, 14 and 19-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-4, 6-8 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brueckner et al (DE019745966) in view of Haas.

Brueckner discloses an inherently thin film heater comprising at least a resistive layer with adjustable temperature coefficient of resistance (TCR), the resistive layer made out of Cu-Ni (Abstract), thus the resistive layer is a heater element and a temperature sensor, but does not disclose how the temperature is adjusted and a two-wire controller. Haas discloses a heater element 10 comprising a conductive ink 12, a temperature controller 30 having two wires 26 and connected to the resistive layer of the heater 10 (col. 7, lines 10-45). It would have been obvious to one having ordinary skill in the art to modify Brueckner's invention to include a temperature controller as taught by Haas, wherein the controller determines temperature of the thin film heater using the resistance of the resistance layer of the Brueckner and controls the heater temperature accordingly.

As for claim 4, this is a product-by-process claim, and the product itself does not depend on the process of making it. See MPEP 2113.

Art Unit: 3742

As for claims 7-8, Haas teaches a film heater 10 comprising a controller 30 capable of operating with DC or AC control. It would have been obvious to one having ordinary skill in the art to modify Brueckner's invention to use a controller with AC or DC control as taught by Haas in order to control calculation of the resistance of the resistive layer of Brueckner.

As for claim 19, Brueckner in view of Haas can use the method of operating the heater because they disclose all structural elements of the invention and are capable of so perform.

As for claims 20-23, it would have been obvious to one having ordinary skill in the art to modify the invention of Brueckner in view of Haas to include calibration steps in order to better control the heater temperature.

3. Claims 1-2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brueckner in view of Haas and further in view of Hayashi.

Brueckner in view of Haas discloses substantially the claimed invention comprising an inherently thick film heater of Brueckner and a substrate 18 of Haas, but does not disclose a dielectric layer and a protective layer.

Hayashi discloses a heater system (Fig. 4) comprising a film heater defining a substrate 2, a dielectric layer 4, a resistive layer 5a, a protective layer 6, and a two-wire controller 61. It would have been obvious to one having ordinary skill in the art to modify the invention of Brueckner in view of Haas to include a dielectric layer and a protective layer as taught by Hayashi in order to protect the user from being hurt by an electric current.

Art Unit: 3742

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brueckner in view of Haas and further in view of Miyata et al.

Brueckner in view of Haas discloses substantially the claimed invention, but does not disclose a sol-gel heater and thermal spray. Miyata teaches a sol-gel heater (col. 10, lines 10-20) and thermal spray (col. 20, lines 36-44). It would have been obvious to one having ordinary skill in the art to modify the invention of Brueckner in view of Haas to include a sol-gel heater in order to protect the exposed edge from the outside covering with a ceramic film as taught by Miyata (col. 10, lines 12-17).

5. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brueckner in view of Haas and further in view of Lumsden.

Brueckner in view of Haas discloses substantially the claimed invention, but does not disclose a controller having an angle firing and a shunt resistor. Lumsden teaches a controller 8 comprises an angle firing (col. 7, lines 1-10) and shunt resistor (claim 1). It would have been obvious to one having ordinary skill in the art to modify the invention of Brueckner in view of Haas to include a controller comprising an angle firing and a shunt resistor for controlling current as taught by Lumsden (col. 6, lines 55-67).

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brueckner in view of Haas and further in view of Waggoner et al.

Brueckner in view of Haas discloses substantially the claimed invention, but does not disclose a controller with firmware. Waggoner teaches a heater resistor having a controller 80 comprising firmware. It would have been obvious to one having ordinary skill in the art to modify the invention of Brueckner in view of Haas to include a controller

Art Unit: 3742

comprising firmware in order to control various functions as taught by Waggoner (col. 2, lines 63-67).

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brueckner in view of Haas and further in view of Godwin.

Brueckner in view of Haas discloses substantially the claimed invention including a controller, but does not disclose a microprocessor. Godwin discloses a heater system comprising film heaters 63,65 and 67, a controller and a microprocessor (col. 7, lines 15-30). It would have been obvious to one having ordinary skill in the art to modify Hayashi's invention to include a microprocessor as taught by Godwin in order to carry logic operation means (col. 7, lines 16-23) that are applied to operating of the heater of Brueckner in view of Haas.

### ***Response to Arguments***

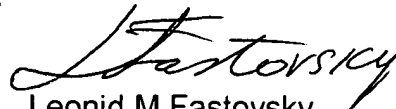
8. Applicant's arguments with respect to claims 1-11, 13-14 and 19-23 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 571-272-4778. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Leonid M Fastovsky  
Examiner  
Art Unit 3742

lmf

9/13/05



**ROBIN Q. EVANS**  
**JOINT EXAMINER**

9/19/05